

41. E.L. Wagner and D.F. Hornig, J. Chem. Phys. 18, 296 (1950); 18, 305 (1950).
42. R.S. Krishnan, Proc. Indian Acad. Sci. 26A, 432 (1947); 27A, 321 (1948).
43. High Pressure Volume Data

There are several sources of high pressure volume measurements on NH_4Cl and NH_4Br at ambient temperature, however the most appropriate data for the present purposes are probably Kennedy and Bridgman's measurements.⁴⁴⁻⁴⁵ Their work covers the required pressure range (1 atm to 45 kbar) and also the relative volume changes show consistency. In NH_4Cl , for example at 5 kbar Bridgman's compressibility is 2% larger than Kennedy's while Bridgman's value is 4% smaller at 40 kbar. The present calculation of the high pressure nitrogen-halogen distances and Grüneisen constants (γ_i) were based on the x-ray lattice constants at 296 K and 1 atm and on Bridgman's relative volume measurements since there were more experimental values from this source. Unfortunately, the proton-halogen distance is only known at atmospheric pressure and is 2.32 Å and 2.49 Å at 300 K in NH_4Cl and NH_4Br respectively.³⁵

44. S.N. Vaidya and G.C. Kennedy, J. Phys. Chem. Solids 32, 951 (1971).
45. P.W. Bridgman, Proc. Am. Acad. Sci. 74, 21 (1940); 76, 9 (1945); Phys. Rev. 38, 182 (1931); 57, 237 (1940).
46. J.F. Vetelino, K.V. Namjoshi and S.S. Mitra, J. Appl. Phys. 41, 5141 (1970).
47. R. Ruppin, J. Phys. Chem. Solids 33, 945 (1972).
48. H.C. Teh, Ph.D. Thesis, Department of Physics, McMaster University, 1971 (unpublished).
49. C.W. Garland and N.E. Schumaker, J. Phys. Chem. Solids 28, 799 (1967).
50. R.B. Wright and C.H. Wang, J. Phys. Chem. Solids 34, 787 (1973).
51. C.H. Wang and R.B. Wright, J. Chem. Phys. 58, 1411 (1973).
52. M. Couzi, J.B. Sokoloff and C.H. Perry, J. Chem. Phys. 58, 2965 (1973).
53. C.H. Wang, Phys. Rev. Lett 26, 1226 (1971).
54. R.A. Cowley, Rept. Prog. Phys. 31, 123 (1968).
55. T.R. Tessman, A.H. Kahn and W. Shockley, Phys. Rev. 92, 890 (1953).
56. W. Cochran, C.R.C. Critical Rev. Solid State Sci. 2, 1 (1971).
57. H. S. Gutowsky, G. E. Pake and R. Bersohn, J. Chem. Phys. 22, 643 (1954).
58. A. Sequeira and W. C. Hamilton, J. Chem. Phys. 47, 1818 (1967).